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Evolving Strategies for Dealing with Contaminated Sediments

Excavation of PCB-Contaminated Sediment Adjacent to the Intake of a 12-MGD Drinking Water Plant

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The ROD for the former Westinghouse plant in Sharon, Pennsylvania issued in February 2003 included the removal of approximately 4,000 CY of PCB-contaminated sediment from several locations along the Shenango River to a cleanup goal of 1.0 mg/kg. Delineation sampling indicated a maximum total PCB concentration of about 400 mg/kg, although 97% of the sediment samples were less than 50 mg/kg, and 88% of the samples were less than 10 mg/kg. Remediation planning was complicated by the presence of a 12 MGD drinking water plant with a surface intake less than 200 feet from the remediation areas, along with an active 24-inch cast iron water line crossing the river underneath the riverbed. Given the water depth and composition of the riverbed, as well as potential flow velocities during high flow periods, it was determined that the best means of protecting the water plant intake during the remediation would be to isolate the excavation areas using sheet piling, with placement of silt screens around the intake as well as downstream of the pile installation areas. In addition, a mobile laboratory was brought on site to provide rapid analysis of surface water samples at quantitation limits of 0.05 ug/l, in order to provide reassurance to all interested parties that the water supply would not be impacted by the work.

Remediation commenced in summer 2004, and to date, more than 800 surface water samples have been collected downstream of active work areas, including more than 300 samples collected directly from the water plant intake. No PCBs have been detected in any of the water samples collected from the intake, and only five other samples collected downstream of work areas were found to contain PCBs (up to 0.26 ug/l). The sediment remediation, delayed by Hurricanes Frances and Ivan, is expected to be completed in spring 2005.